

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS:

1. (currently amended) An information recording apparatus which irradiates a laser light on a recording medium and forms recording marks corresponding to recording data, comprising:

a light source which emits the laser light;

a recording waveform generating unit which generates a recording pulse waveform varying between a ~~first~~ bias power level and a ~~second~~ write power level based on the recording data; and

a recording unit which drives the light source based on the recording pulse waveform to form the recording marks on the recording medium,

wherein the recording waveform generating unit adjusts an edge position of a pulse portion having the ~~second~~ write power level in the recording pulse waveform in accordance with the ~~first~~ bias power level, such that as the bias power level increases or decreases from a predetermined value, the edge position of the write power level has a corresponding left or right movement.

2. (currently amended) The information recording apparatus according to claim 1, wherein the recording waveform generating unit comprises:

a level determining unit which determines the ~~first~~ bias power level; and

an adjustment unit which compares the ~~first~~ bias power level with a predetermined reference level and adjusts the edge position based on a comparison result.

3. (currently amended) The information recording apparatus according to claim 2, wherein the adjustment unit shifts a front edge of the pulse portion backward when the ~~first~~ bias power level is higher than the reference level, and shifts the front edge of the pulse portion forward when the ~~first~~ bias power level is lower than the reference level.

4. (original) The information recording apparatus according to claim 1, wherein the recording pulse waveform comprises a top pulse, and wherein the recording waveform generating unit adjusts a front edge position of the top pulse.

5. (original) The information recording apparatus according to claim 4, wherein the recording pulse waveform further comprises one or more multi-pulse, and wherein the

recording waveform generating unit adjusts a front edge position of each multi-pulse.

6. (original) The information recording apparatus according to claim 1, wherein the recording waveform generating unit adjusts the edge position of the pulse portion to vary a pulse width of the pulse portion.

7. (original) The information recording apparatus according to claim 1,

wherein the recording pulse waveform comprises one top pulse and one or more multi-pulse, and

wherein the recording waveform generating unit adjusts the front edge position of the top pulse in accordance with a level in a period before the top pulse, and adjusts each front edge position of the plural multi-pulses in accordance with the level between the plural multi-pulses.

8. (currently amended) An information recording method executed in an information recording apparatus which irradiates a laser light on a recording medium to form recording marks according to recording data, comprising:

a recording waveform generating process which generates a recording pulse waveform varying between a ~~first~~ bias power

level and a ~~second~~ write power level based on the recording data;  
and

a recording process which drives a light source based on the recording pulse waveform to form the recording marks on the recording medium,

wherein the recording waveform generating process adjusts an edge position of a pulse portion having the ~~second~~ write power level in the recording pulse waveform in accordance with the ~~first~~ bias power level, such that as the bias power level increases or decreases from a predetermined value, the edge position of the write power level has a corresponding left or right movement.

9. (new) An information recording apparatus which irradiates a laser light on a recording medium and forms recording marks corresponding to recording data, comprising:

a light source which emits the laser light;

a recording waveform generating unit which generates a recording pulse waveform varying between a bias power level and a write power level based on the recording data; and

a recording unit which drives the light source based on the recording pulse waveform to form the recording marks on the recording medium,

wherein the recording waveform generating unit adjusts an edge position of a pulse portion having the write power level

in the recording pulse waveform in accordance with the bias power level, such that as the bias power level increases from a predetermined value, the front edge position of the write power level moves right and as the bias power level decreases from a predetermined value, the front edge position of the write power level moves left.